

In the claims

1. (Withdrawn) A system for routing packets containing voice data over a packet-switched network comprising:

a first interface having at least one telephone network port and at least one computer network port, the first interface configured to send and receive voice data on the at least one telephone network port and send and receive the packetized data on the at least one computer network port;

a second interface having at least one telephone network port and at least one computer network port, the interface configured to send and receive voice data on the at least one telephone network port and send and receive the packetized voice data on the at least one computer network port; and

a monitoring system configured to monitor the sending and receiving of data between the first interface and the second interface.

2. (Withdrawn) The system of Claim 1, wherein the packet-switched network comprises the Internet.

3. (Withdrawn) The system of Claim 1, wherein the at least one telephone network port is configured to communicate with the public switched telephone network.

4. (Withdrawn) The system of Claim 1, wherein the first interface and the second interface include hardware or software configured to perform data compression

and decompression.

5. (Withdrawn) The system of Claim 1, wherein the first interface and the second interface are configured to convert digitized voice data to packetized data.

6. (Withdrawn) The system of Claim 1, wherein the monitoring system is in communication with the first interface and the second interface to monitor the sending and receiving of data.

7. (Withdrawn) The system of Claim 1, wherein monitoring comprises analyzing quality of communication between the first interface and the second interface.

8. (Withdrawn) The system of Claim 1, wherein the monitoring system , the first interface and the second interface are configured to re-route the data based on monitoring.

9. (Withdrawn) A system configured to monitor parameters of a communication session occurring over a packet-switched network comprising:

 a collection system configured to obtain data regarding data transfer over said packet-switched network;

 a first module, a second module and a third module, each configured to transmit packets to the other respective modules over said packet switched network and obtain and forward data regarding said transmission

to said collection system; and
an analysis system in communication with said collection system, said analysis system having a processor and software configured to perform calculations on said data to monitor said parameters.

10. (Withdrawn) The system of Claim 9, wherein said collection system comprises software code.

11. (Withdrawn) The system of Claim 9, wherein said modules comprise interfaces.

12. (Withdrawn) The system of Claim 9, wherein said packets comprise test packets.

13. (Withdrawn) The system of Claim 9, further including a transmission system configured to utilize results of said monitoring to control communication between said first module, said second module and said third module.

14. (Withdrawn) A method for achieving voice communication via a packet-switched network comprising:

receiving voice data at a first location;
manipulating the voice data for transmission over a computer network;
transmitting the manipulated voice data over a computer network via

a first route;
receiving the manipulated voice data from the computer network at a second location;
converting the manipulated voice data to voice data; and monitoring the transmission characteristics of the first route.

15. (Withdrawn) The method of Claim 14, further including, re-routing the manipulated voice data if the monitoring reveals undesirable transmission characteristics.

16. (Withdrawn) The method of Claim 14, wherein undesirable transmission characteristics comprises delay.

17. (Withdrawn) The method of Claim 14, wherein voice data comprises analog data.

18. (Withdrawn) The method of Claim 14, further including monitoring alternate routes.

19. (Withdrawn) The method of Claim 14, wherein the computer network comprises the Internet.

20. (Withdrawn) The method of Claim 14, wherein voice data comprises any

type data transmitted in the public switched telephone network.

21. (Withdrawn) The method of Claim 14, wherein manipulating the voice data comprises converting digital voice data into data packets.

22. (Withdrawn) The method of Claim 14, wherein converting comprises de-assembling the data packets.

23. (Withdrawn) The method of Claim 14, wherein monitoring comprises receiving data from either of the first location or the second location via the computer network regarding the first route.

24. (Currently Amended) A method for maintaining desirable transmission characteristics when sending data packets during a communication session occurring over a current path between a first locationinterface and a second locationinterface, each interface comprising a telephone network port and a computer network port, said first and second interfaces each being respectively located at a first and a second location on a computer network comprising:

transmitting test packets from said first location to said second location over each of a plurality of paths including said current path, said paths other than said current path comprising a third location in each said path intermediate said first location and said second location;

evaluating said test packets to determine acceptability of each path in response to the effect on said data packets of transmitting packets from said first location to said second location in each path;
monitoring each path within the plurality of paths from the first location to the second location and identifying an acceptable best path different from said current path; and

if said evaluating determines the effect on said data packets in said current path to be undesirableunacceptable, sending said data packets on one said acceptable path tovia atthe third location prior to sending said data packets to said second location.

25. (Canceled) ~~The method of Claim 24, wherein said first location, said second location and said third location comprise interfaces.~~

26. (Original) The method of Claim 24, wherein one said effect on said data packets comprises latency.

27. (Canceled) ~~The method of Claim 24, wherein sending said data packets to a third location comprises causing said data packets to take a different route on said computer network.~~

28. (Original) The method of Claim 24, wherein an undesirable effect on said data packets comprises degrading the quality of communication between said first location and said second location that inhibits voice communication.

29. (Currently Amended) A method for maintaining desirable transmission characteristics when sending data packets during a communication session occurring between a first location and a second location on a computer network over a current path between a first location interface and a second location interface, each interface comprising a telephone network port and a computer network port, said first and second interfaces each being respectively located at a first and a second location on a computer network comprising:

transmitting data packets from said first location to said second location over each of a plurality of paths including said current path, said paths other than said current path comprising a third location in each said path intermediate said first location and said second location;

evaluating said data packets to determine the effect on said data packets of transmitting packets from said first location to said second location in each path;

monitoring each path within the plurality of paths from the first location to the second location and identifying an acceptable path different from said current path; and

if said evaluating determines the effect on said data packets in said current path to be undesirable unacceptable, sending said data packets on

said acceptable path ~~to~~ via ~~at~~ the third location prior to sending said data packets to said second location.

30. (Canceled) ~~The method of Claim 29, wherein said first location, said second location and said third location comprise interfaces.~~

31. (Original) The method of Claim 29, wherein one said effect on said data packets comprises latency.

32. (Withdrawn) A computer program product comprising a computer useable medium having computer program logic recorded thereon for providing a monitoring and routing system, comprising:

computer program code logic configured to receive input regarding the effect of one or more paths on packet transmission;
computer program code logic configured to analyze the effect of the one or more paths on packet transmission;
computer program code logic configured to determine acceptable paths based on the analysis.

33. (Withdrawn) The computer program product of claim 32, further including computer program code logic configured to transmit data regarding the acceptable paths to a routing device.

34. (Withdrawn) The computer program product of claim 32, further including computer program code logic configured to provide acceptable paths upon request.

35. (Withdrawn) The computer program product of claim 32, wherein the effect comprises delay and bit error rate.

36. (Withdrawn) The computer program product of claim 32, wherein the paths comprise any route between a first interface and a second interface.

37-41 Canceled

42. (Withdrawn) A method of determining least-cost-routing over a computer network of a telephone call, the method comprising:

 determining the destination of an incoming call, the incoming call comprising call data;

 determining two or more interfaces to which call data may be routed; for at least two interfaces, calculating the fee associated with terminating the call from two or more of said at least two interfaces over non-computer network communication facilities; and

 routing said call data to said interface calculated to have the lowest cost of termination over non-computer network communication facilities.

43. (Withdrawn) The method of Claim 42, wherein said non-computer network communication facilities comprises the public switched telephone network.

44. (Withdrawn) The method of Claim 42, wherein routing said call comprises packetizing the call data into call packets and transmitting the call packets to said interface calculated to have the lowest cost of termination over non-computer network communication facilities.

45. (Withdrawn) The method of Claim 42, wherein determining the destination comprises evaluating the telephone number of the call destination.

46. (Withdrawn) The method of Claim 42, wherein calculating the fee comprises performing a look-up function to determine the fee associated with completing the call from the interface to the call destination.

47. (Currently Amended) In a digital communications network, a monitoring and routing system for maintaining desirable transmission characteristics when sending data packets during a communication session occurring between a first locationinterface and a second locationinterface, each interface comprising a telephone network port and a computer network port, said first and second interfaces each being respectively located at a first and a second location on a computer network comprising:

means for controlling route selection between asaid first location and asaid second location;

means for transmitting path characteristic packets to determine the effect on said data packets of transmitting said data packets over each of a plurality of paths including a current path from said first location to said second location, said paths other than said current path comprising a third location in each said path intermediate said first location and said second location;

means monitoring each path within the plurality of paths from the first location to the second location and determining if the effect on said data packets in each said path is acceptable;

said route selection means being responsive to an evaluation that the effect on said data packets in each path and selecting a best path;

said monitoring means monitoring the best path and evaluating said path characteristics; and

means responsive to an evaluation that the effect on said data packets in the current path is undesirable unacceptable to select a route so that said data packets are sent to via at the third location in an acceptable path other than said current path prior to sending said data packets to said second location.

48. (Canceled) The monitoring and routing system of Claim 47, wherein said first location, said second location and said third location comprise interfaces.

49. (Previously Presented) The monitoring and routing system of Claim 47, wherein
said wherein said path characteristic packets comprise test packets.

50. (Previously Presented) The monitoring and routing system of Claim 47, wherein
said wherein said path characteristic packets comprise data packets.

51. (Previously Presented) The monitoring and routing system of Claim 47, wherein
said path characteristic packets comprise pings.